

The next Annual Meeting of the Michigan State Medical Society will
be held in Detroit, June 11th and 12th, 1903

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Preliminary Announcement of The Next Annual Meeting of the State Society

The attention of the members of the Michigan State Medical Society is respectfully invited to the forthcoming Annual Meeting of the Society to be held at Detroit, Thursday and Friday, June 11th and 12th, 1903.

Voluntary papers are hereby solicited, and each member who contributes is requested to send the title of his paper to the Secretary of the Section before which he desires to present it. In the interest of the work of the Society the General Secretary, however, reserves the right to determine the Section to which the paper belongs. Each paper is limited to fifteen minutes and the title is to be sent as early as possible, **not later than April 1st**, to the respective Secretary of Section.

DR. WILLIS S. ANDERSON,
912 Chamber of Commerce, Detroit, *Secretary of Section on General Medicine.*

DR. W. A. SPITZLEY,
270 Woodward Ave., Detroit, *Secretary of Section on Surgery, Ophthalmology and Otology.*

DR. CASPER K. LA HUIS,
Kalamazoo, *Secretary of Section on Obstetrics and Gynecology.*

In view of the great increase of membership of the State Society and the probability that enough papers will be contributed, the Committee on Scientific Work has selected no special subjects for discussion in the Sections.

It is requested that an abstract of each paper, *not to exceed one hundred words*, be furnished the Secretary of the respective Sections by **May 1st**.

No paper, the title to which has not been sent in by **April 1st**, can be presented at the Annual Meeting in June.

Attention is also invited to the Pathological Exhibit. Members desiring to contribute to the same will please correspond with Dr. Thaddeus Walker, Chairman of the Committee, Detroit Clinical Laboratory, 33 Mullett Street, Detroit.

A. P. BIDDLE, Secretary.

DETROIT, MICH, January 1, 1903.

At the Annual Meeting of the Society, Port Huron, June 26th, 1902, before the Section on Obstetrics and Gynecology, the following symposium was delivered:

ABORTION, MISCARRIAGE AND PREMATURE LABOR.

- (a) Etiology and Prophylaxis,
- (b) Treatment,
- (c) Complications,
- (d) Moral and Legal Aspect,

J. G. LYND, Ann Arbor.
H. WELLINGTON YATES, Detroit.
A. H. ROCKWELL, Kalamazoo.
F. J. WELSH, LL. D., Kalamazoo.

Original Articles

ETIOLOGY AND PROPHYLAXIS OF ABORTION AND PREMA- TURE LABOR.

J. G. LYND,
Ann Arbor.

I have prepared a short paper which, while it contains nothing new or startling, and very little if anything original, will, I trust, act as somewhat of a review, and freshen your memories on some of the points involved. By abortion I shall mean the expulsion of the products of conception before the child has reached a viable age; say six or six and a half months. Premature labor indicates a premature termination of pregnancy after the child has reached a viable age; i. e., after the sixth month, and before full term. The term miscarriage applied by some to indicate the expulsion of the ovum between the fourth and sixth months I prefer to discard as immaterial and unnecessary. Any division of the subject so far as its discussion from my standpoint is scarcely necessary, however, as the causes and prophylaxis I shall mention may apply equally to any stage. The causes are best studied under two heads, viz., Predisposing and Exciting.

PREDISPOSING. These may with advantage be again divided into: 1st, Paternal; 2nd, Maternal, and 3rd, Foetal.

1st, *Paternal*. It is now well proven that a father suffering from syphilis, and possibly tuberculosis, may transmit the disease to the ovum and foetus even though the mother remain free from it. These may cause the death of the foetus or a diseased condition of the membranes, or placenta, which in turn act as exciting causes.

Alcoholism, lead poisoning, advanced age, excessive venery, or debility from any cause are also mentioned as predisposing causes.

2nd, *Maternal*, (a) General. (b) Local.

(a) *General*. Among these may be included all those mentioned above and also all the acute infectious diseases which cause high temperature or saturate the system with toxins; as, e. g., typhoid or typhus fever, measles, scarlet fever, smallpox, yellow fever, pneumonia, malaria and influenza. Possibly some of these should be placed among the exciting causes, but the chances are the real exciting cause is the death of the foetus or some pathological condition of the membranes produced by the disease, although it is quite possible that in some instances the poison in the blood sets up uterine contractions by its direct action on the nerves or muscle fibres. This may be true in tetanus, cholemia, eclampsia, chorea or other convulsive disturbances. All diseases or conditions producing marked debility or exhaustion as, e. g.,

syphilis, tuberculosis, organic heart disease, indigestion, overwork, insufficient or unsuitable food, or other diseases or conditions which lower the vitality of the pregnant woman, favor the premature expulsion of the ovum.

A specially sensitive nervous system makes its possessor more susceptible to many of the exciting causes.

(b) *Local.* Congestive or inflammatory conditions in or about the pelvic organs, such as endometritis, metritis, salpingitis, ovaritis, pelvic peritonitis, cellulitis, or appendicitis, or adhesions resulting therefrom, are likely to interfere with normal uterine development and cause changes in the membranes, placenta, or foetus, which become exciting causes.

Deformities or displacements of the uterus, especially ventro-displacements, if bound down by adhesions sufficiently to prevent the normal upward development, must result in impaction or abortion. Lacerations or ulcerated conditions of the cervix are likely to lead to pathological changes in the endometrium or ovum, which become exciting causes.

Tumors, especially fibroid tumors, in the uterine walls, may be both predisposing and exciting causes, predisposing by causing changes in the membranes or exciting by causing hemorrhage, pressure or uterine contractions.

Exciting Causes. The death of the foetus or some diseased condition of the membranes are the most frequent exciting causes. These may result from syphilis, tuberculosis, malaria, pneumonia, smallpox or any of the acute infectious diseases causing high temperature or saturating the system with toxins.

Traumatisms, such as blows, kicks, falls, severe vomiting or straining, coughing,

hysteria, epilepsy, chorea, pressure on the cord from being wound around extremities, body, or neck of child, or from knots becoming drawn up tight; hemorrhage beneath the membranes or placenta or into the ovum. Of 190 cases of chorea collected by Barnes, Ramburg and Spiegelberg, only 84 were delivered of mature infants. Faulty insertion of the placenta, especially placenta previa, accidental rupture of the membranes, criminal interference on the part of the patient herself or others with the direct intention of emptying the uterus. Operations which sacrifice the life of the child when not absolutely necessary to save the mother cannot be too strongly condemned, and in fact should be considered in the same light as any criminal abortion.

Drugs, such as ergot, quinine, cotton root, tansy, pennyroyal, cantharides, rue, savin, etc., no doubt in cases having conditions predisposing to abortion, and possible in some others, may set up uterine contractions; but I believe are unlikely to do so in the great majority of healthy women, and frequently prove futile where strong predisposing causes exist.

Douches and sitz baths may no doubt cause congestion of the pelvic organs and if persisted in will in some cases cause a premature emptying of the uterus. In inflammatory conditions or adhesions complicating pregnancy I am in the habit of using the hot douche and tampon, however, as an antiphlogistic and prophylactic treatment, and have never yet seen an abortion result from it.

Severe emotional disturbance or shock is a frequent exciting cause in women of nervous temperament or when some of the local predisposing causes are present. Undue exertion, such as heavy lifting, high reaching, unusually heavy or an unusual

amount of work, may be sufficient exciting cause.

Habitual abortion is a term applied where repeated abortions occur and no adequate reason can be found. I find nephritis mentioned in the books as a cause of abortion and premature labor. I prefer to consider it as a serious complication frequently calling for the induction of abortion or labor; and unless it be discovered but a short time before the child has reached a viable age, or readily yields to treatment, would not advise any measures being taken with the view of prolonging the pregnancy.

Prophylaxis. Whatever treatment is instituted for the purpose of preventing abortion or premature delivery should depend upon as thorough an understanding of the causes at work in the individual case as it is possible to obtain. A thorough inquiry into the history of both parents as well as a careful examination of the prospective mother, is essential, and treatment advised according to indications. If there be a history or symptoms of syphilis a liberal exhibition of the iodides is indicated. If the case be one coming under the head of habitual abortion I prescribe the iodides and also viburnum prunifolium, frequently combining it with hydrastis canadensis. The combination of these drugs as put up by Parke, Davis & Co. under the head of Liquor Sedans is usually well known by the patient and has given me satisfactory results.

When a pregnant woman is suffering from some of the acute infectious diseases the probabilities of abortion should be remembered even though little outside the ordinary treatment of the diseases can be done to prevent it.

The accumulation of toxins in the system should be prevented as far as pos-

sible and high temperature controlled by cold sponging or ice-bags, and medication as indicated. The cold bath, if used, should be used with great caution, as the shock is likely to set up uterine contractions and bring on labor.

Tumors in women likely to become pregnant should be removed and the organs left in as healthy condition as possible. In pregnant women a serious operation should be done only to save the life of mother or child, and where one or the other needs to be sacrificed that both may not perish, the mother, unless it be in some exceedingly rare instances, should receive first consideration. Experience has shown, however, that even serious operations on the pelvic organs, abdominal or vaginal, when performed before the fourth month, are comparatively safe to both mother and child, and a timely operation for fibroid or ovarian tumor, pus tube, or appendicitis may save the life of one or both when otherwise they would be lost. In the paper I read before this section last year, entitled "Neoplasms Complicating Pregnancy and Labor," I reported some such cases which had come under my care.

Inflammatory conditions should be as far as possible removed before pregnancy occurs. When existing with pregnancy and threatening the life of mother or child, often both may be saved by thorough antiphlogistic and expectant treatment. I do not hesitate to use the hot douche and tampon when I consider them indicated and have never yet had them cause an abortion.

Displacements when uncomplicated are easily managed, the only ones likely to cause serious trouble being retroversion or retroflexion and complete prolapsus. The latter can always be kept up by keep-

ing the patient in the prone position with hips elevated, if not by pessary or bandage, until the uterus is too large to descend, which would be from the fourth to the fifth month, when it will go on to term without further trouble.

Retro-displacements when uncomplicated can be kept up by tampon or pessary until sufficient development has taken place to prevent their recurrence. When complicated by inflammatory conditions or adhesions the antiphlogistic treatment should be carried out, gradually replacing the organ, with the patient in the genu-pectoral position. This should not in the majority of cases be completed at one time, as too great a stretching of the parts is painful and likely to prove disastrous. Many cases require weeks of treatment. Failing in this, an abdominal operation to break up adhesions and replace the organs is justifiable and indicated. When displacements, especially those complicated by inflammatory conditions or adhesions, are known to exist in patients likely to become pregnant, they should be corrected before that important event occurs, for even though a great many cases may be carried to term by proper care and treatment, it is well known a considerable number will miscarry in spite of every precaution. Diseased conditions of the endometrium should be corrected and lacerations of the cervix repaired, care being taken to remove all the tissue too thoroughly diseased to recover and restore the cervix as nearly to its original condition as possible.

The importance of this subject and the necessity of giving it greater consideration than it has received in the past is best shown by the frequency of its occurrence and the number of lives thus sacrificed. It is claimed by those who

have gathered statistics on this subject that one out of every five pregnancies end in abortion. Twenty out of every hundred would be considered an alarming death rate. I believe that by the proper care of patients preceding and during pregnancy, a large portion of the lives thus sacrificed might be saved.

THE TREATMENT OF ABORTION, IMMATURE AND PREMA- TURE LABOR.

H. WELLINGTON YATES,
Detroit.

The subjects of abortion and miscarriage are of paramount interest to the general practitioner, especially so to the physician in the larger towns and cities where they more frequently occur. Of interest, because there are few conditions met with where the physician can do more good or harm to his patient in accordance with the plan he adopts for his treatment than in this one.

There are times in these threatened cases when waiting for a few hours will save the fetus and the patient will go on to full term,—other times when the delay of a few hours on our part will be but a sacrifice of the woman's life. Therefore there must be such diagnostic acumen shown in each of these cases as will be well borne out by the result of treatment, which sometimes calls for a few hours of waiting, sometimes a sharp and decisive action.

The fact that a goodly number of our cases are after a criminal interference, and that, of those who die, the large percentage are from this class, it becomes our duty, in all cases of question, to fortify ourselves against incrimination by de-

manding a written statement in the presence of a witness, exonerating us from all blame in case of fatality. I say this because in many of these cases a veritable septic process has already had its inception, the septic process going beyond the confines of the uterus to lymphatic channels in the adnexa; these are the fatal cases, no matter what surgical interference is made, and those which prove fatal may cause much uneasiness unless we have obtained such a statement as would exonerate us.

Abortion signifies the expulsion of the products of conception at a time when the placenta is not yet fully formed, and hence when it cannot be expelled or expressed in its entirety.

Miscarriage or Immature Labor occurs after the formation of the placenta and until the fetus is viable; the approximate time would be from the fourth to the seventh month.

Premature Labor is the term applied to the delivery of the fetus from the time of its viability to within a short time before the normal termination of pregnancy.

Since the time element as to viability is often erroneous, these rules are not wholly to be relied upon, but this manner of classification has fallen into such general use that it is difficult to get away from it.

The treatment which would usually be demanded in ordinary cases of midwifery would in the general run be suitable to those of premature labor. We will, therefore, confine our consideration to the treatment of abortion and immature labor. And since the greater proportion of these occurrences happen before the fourth month, and therefore before the formation of the placenta, the center of interest is in the treatment of these cases in which the products of conception can-

not be expressed by Crede's method and would, according to the general rule of time, be before the sixteenth week.

Abortion and immature labor are either complete or incomplete in accordance to whether the whole or a part of the products of conception are thrown off.

When we are confronted with a recent and inevitable abortion, what are the symptoms, and what is our duty in relation to them?

First. Hemorrhage may be profuse and alarming.

This will demand immediate attention. We should ascertain if any portions have come away, and how much, if any. Perhaps there is no measure which is more suitable for the prevention of hemorrhage than the vaginal tampon, and when it is thoroughly placed and allowed to remain for twenty-four hours, not unfrequently when it is removed all the products of conception will be found in the dilated cervical canal, or possibly down in the vagina itself.

Now just at this juncture comes one of the most important measures of treatment. Has all the decidua been thrown off, and how are we to know? If a considerable proportion remains, flowing will continue either constantly or at intervals, the cervix uteri will be patulous and the uterus itself have a boggy feel. If there is question concerning it, the finger should be introduced in the uterine cavity to explore (*rubber gloves or cot*). If the pregnancy is of so short a duration that the cervix will not admit the finger, the circumstances may demand a mechanical dilatation with curettage. If the cervix is such that dilatation is necessary, I am inclined to believe that it is best done by a Goodale dilator. If it is done with the

finger, it will become so numb through pressure that it may convey a wrong impression. It goes without argument that no scientific man will use the sponge tent for purposes of dilatation. What we want here is absolutism. If any of the products of conception remain, now is the time to know it. Their removal is not done alone for the immediate preservation of life, but for the prevention of a long period of invalidism which might occur if but a small portion of putrid decidua remain, for early in pregnancy the decidua is the most important part of abortion, the membranes less, the fetus not at all, but with the involution of the vera and reflex, and the formation of placenta, the latter assumes the most importance and retains it until the latter half of pregnancy.

Duhrssen, of Berlin, says that the retention of decidua vera is not the exception but the rule. If the curette is used, the larger size the better. Personally I prefer the douche curette. Where it is possible the finger should explore the cavity before the operation is completed. If no sepsis be present, packing the uterus with sterile gauze is the proper procedure,—not as a prophylaxis to a recurrence of hemorrhage, for if all decidua or placenta is removed this need not be feared,—but for purposes of involution. It is an accepted fact that many of the large, sub-involuted uteri seen are consequent upon abortion, and therefore any measure we can use at the time, or during the lying-in period of abortion, to assist in involution should receive our attention. Accordingly, any gentle irritant locally applied might be useful.

The success of the treatment of these aseptic cases is entirely in our keeping. Every general practitioner should be fully

competent—and I believe the majority are sufficiently competent—to do this work in an aseptic manner. Some gynecologists of late have said that curettements should not be made by the general practitioner. I believe this to be the height of arrogance, and maintain that any general practitioner can do this work successfully. It is the general practitioner to whom these patients come, and he, in consequence, has more opportunity of doing them than any one else.

I cannot refrain here from calling attention to the proper method of preparation for this work. Too commonly the patient receives nothing but a hasty bichloride douche. A missing link in the chain of asepsis here may mean our patient's life. The hair about the vulva should be shaved, the vulva, thighs and vagina should be washed and re-washed with good soap and water; then if we have any antiseptic solution it may do some good. The same care in asepsis and antisepsis should be practiced that are necessary for a major operation. Making this our every-day practice will avert infection in cases which have not already been rendered septic. If the operation should be followed by a rise of temperature or other manifestations of sepsis, we must assume that our work somewhere has been faulty. If the case has been treated properly it will remain clean. In cases where we find pronounced sepsis, we should at least suspect criminal interference. From this class our fatalities come, and these tax our ingenuity from the outset. Here, activity is our watchword; a local infection may become a general one, and it is our duty to thwart it, if possible.

If there is any diversity of opinion as to the propriety of the curette, be it the

finger or a metallic one—in the class of cases first mentioned, clearly here there can be none—there is but one thing to do, empty the uterine cavity of its contents at the earliest moment.

The patient should be placed on a table and in the lithotomy position. An anaesthetic having been given, a Sims speculum is introduced, the uterine cervix grasped by a vusellum forcep, and the cervix, if not sufficiently dilated, should be divulsed either by a Goodale or the graduated sounds, and after a digital exploration the curette should be used. It is always quite impossible to tell how much softening of the uterine body has gone on as a result of the septic process, and therefore I believe it is the better plan to use the largest curette possible, thus rendering less liability to puncturing the wall. Indeed, this mistake is a blunder which a careful man will not make. After all material has been curetted away, the cavity should be washed out with a solution of lysol, carbolic acid, iodine, normal salt or formalin and the uterus packed with long strips of gauze for the purpose of wiping it out, and then withdrawn. This may be repeated several times. No packing should be allowed to remain in either the uterus or vagina of a woman suffering from sepsis. In fact, opinions differ as to the advisability of the use even of a small strip of gauze left as a capillary drain. If great anemia is present in a septic case, the patient should have a saline transfusion under the breast—not in it—before the curettement is done, and small doses of ergot should be given at intervals afterwards. Indeed, this is about the only field for the use of ergot in abortion, together with the assistance it would lend in involution. Rectal enemata of normal

salt solution should be given at intervals in the desperate cases, and if the infection is already general, or becomes so, the use of antistreptococcic serum may be worthy of trial.

Where the septic process continues in the uterus for a time, intra-uterine douches are sometimes serviceable. Jewett, of New York, believes the vaginal douche unnecessary, useless and injurious both in normal labor and abortion, as the experiments of Kronig, confirmed by Doderlein, Menger, Williams and others, have shown.

You can't sterilize the vagina alone by a douche any more than you can render your hands clean by a hasty dip in bi-chloride solution. The acid secretion of the vagina is germicidal and through the use of the vaginal douche we wash away an antiseptic secretion and leave the germ itself unharmed.

From a consideration of the subject under discussion, permit me to submit the following conclusions:

- 1st. Render everything aseptic.
- 2nd. Arrest hemorrhage by packing or emptying.
- 3rd. In inevitable abortion every portion of the products of conception should be removed as soon as possible.
- 4th. That intelligent curettage is invariably indicated whenever a vestige of placental decidua remains or any suspicion of infection is in evidence.
- 5th. That the general practitioner is fully competent to do this operation.
- 6th. A statement from the patient, relieving the operator of possible incrimination, should be secured.
- 7th. The curette, instead of being used too much, is used too little.

COMPLICATIONS OF ABORTION, MISCARRIAGE AND PREMA- TURE LABOR.

A. H. ROCKWELL,
Kalamazoo.

The complications and sequela of abortion, miscarriage and premature labor may be considered under two heads, hemorrhage and sepsis. Hemorrhage is liable to be a complication so long as a detached, or partially detached, placenta, or any part of it, remains in the uterine cavity to interfere with its contraction and closure of the blood vessels.

The importance of this complication depends upon the amount of blood lost, and the ability of the patient to lose blood. An amount that would be insignificant in one case might be very serious in another.

The conditions favorable to hemorrhage are also favorable for the development of sepsis. There may be an infection of the retained placental tissue and a septic endometritis, and by contiguity, salpingitis and peritonitis, with abscess of the tubes and ovaries; or there may be streptococcus infection through the lymph channels. Some authors have claimed that the ovaries have distinct lymph channels communicating directly with the cervix and cervical canal. Whether this be true or not, the fact remains that ovarian abscess frequently follows abortion, and is usually due to unclean manipulation of the cervical canal, with streptococcus infection. When this is the case the ovarian abscess, with involvement of the adjoining peritoneum, may be the only recognizable evidence of extra-uterine disease, the fallopian tubes having apparently never been involved.

In a majority of cases, however, the involvement of the ovary is a part of a complex process which involves the tubes and uterus, having extended by contiguity from a septic endometritis.

Besides the conditions already indicated, there may be chronic endometritis with subinvolution, displacements of the uterus and ovaries, and the long train of nervous symptoms too familiar to require mention.

The frequent recurrence of abortion, or miscarriage, in some cases is due, no doubt, to some one, or a combination of the conditions just mentioned. The management of the complications is the intelligent management of abortion, miscarriage and premature labor. The indication in hemorrhage is to clear out the uterine cavity. Aseptic conditions should be maintained as nearly as possible where infection has not already occurred—and where it has occurred and effort should be made to establish a condition as nearly aseptic as possible. Dilate, if necessary, and by means of the curette with irrigation thoroughly clear out the uterine cavity.

There may occasionally be an exceptional case of severe hemorrhage under certain conditions when it may be good practice to tampon for a short time while preparing to do the more rational procedure. The tampon should be restricted to cases of abortion, and to miscarriage, or premature labor, before delivery of the fetus. No one should attempt to control hemorrhage from a large uterine cavity that is nearly empty, by the use of tampons. The tampon has the disadvantage that it prolongs the period of danger from septic infection.

The indications for the management of septic infection are to carefully but

thoroughly clear out the uterine cavity with the curette and free irrigation. If done early this may be all that is necessary to effect a cure. In some exceptional cases it may be necessary to repeat the irrigation once, twice, or several times, and in rare cases the curettement also may have to be repeated.

The management of the suppurative conditions following infection I shall merely indicate. Large pelvic abscesses should be evacuated by incision and drainage through the posterior vaginal fornix. In acute abscesses of the ovary, where there is apparently no involvement beyond the adjoining peritoneum, this operation is practicable in most cases. It is unnecessary to remove the ovary; simply incise it and drain with gauze. Nearly all cases thus treated will make a good recovery.

Cases of septic endometritis, followed by pyosalpinx and ovarian abscess, should be treated by abdominal section, preceded by incision and drainage through the vagina, where large collections of pus are found in the pelvis.

By evacuating these large collections, where both tube and ovary are merged into a large abscess, should a radical operation be demanded later on, it can be done with greater safety because of the diminished bulk of abscess mass and lessened amount of pus.

MORAL AND LEGAL ASPECT OF ABORTION, MISCARRIAGE AND PREMATURE LABOR

F. J. WELSH,
Kalamazoo.

There is no individual in a community who may exert a stronger influence for the accomplishment of good, or the production of evil, than the physician. He

is to a degree the guardian of morals, as well as the preservatory of health. In the exercise of the obligations of his high calling is demanded integrity of character, honesty of purpose and a superior and conscientious intellect. Upon him rest grave responsibilities; to him are referred, for solution, significant moral principles, as well as serious scientific problems. He is not only a scientist, but at times partakes of the qualities of a theologian and philosopher. Of the diverse and varied questions he is called upon to decide in the course of his professional career, none cause him more worry, anxiety and even pain, than the melancholy conditions that surround a case of abortion. It is of this, from a moral standpoint, I would briefly write.

Criminal abortion is so repugnant to the true and conscientious physician, so detestable to the spirit of morality and Christianity, so abominable to the lofty and nobler instincts which control our moral being, that it has no justification whatsoever in law or morals. It destroys the honor of the profession, violates the sanctity of the home and relegates Christianity to the days of barbarism and infidelity. Notwithstanding its hideous loathsomeness, sad indeed it is to contemplate that we have individuals in this state, yea, even perhaps in this society, who prostitute their honor, sacrifice their manhood, and who hesitate not to insult God Himself, by engaging in this damnable work, and yet, cowardly assassins that they are, their hearts calloused by their crime, they have the hardihood to raise their hands, dripping with the blood of the innocents, and proclaim to the public, the poor deluded public: We are physicians! We are members in good standing in our medical societies!

Members of this society, we know these facts to be true; we realize it, we feel it; it insults, it humiliates; we condemn it, we war against it, and after all we are in a measure helpless. Religion prohibits it, public sentiment opposes it, the law punishes it, still this atrocious crime goes on sapping the life of society and disgracing our civilization, defying God's command, "Thou shalt not kill!" and so it will continue until the moral status of a physician is elevated so as to enable him to form a true conception of his exalted calling, that he will obey the voice of God, speaking to him through the eternal, the ethical law, that by the majesty of his own conscience he will rise superior to all mercenary gain, and use the beneficent resources of his art for the betterment of mankind and a stricter compliance with the laws of the moral code. This brings us to the question of legal abortion, or abortion permitted by law under certain qualifications, and for the specific purpose of protecting and saving the mother's life. This at once suggests the question, are there any cases in which a physician is justified in bringing about an abortion or prescribing treatment from which he knows an abortion is likely to result? Our conduct should be guided in this matter in accordance with these principles: 1st. That we do not wish evil itself, but make all reasonable effort to avoid it. 2nd. That the immediate result we wish to produce is good in itself. 3rd. That the good effect intended is at least as important as the evil effect permitted. 4th. That the evil is not made a means, used to obtain the good effect.

Coppens applies these principles as follows:

1st. If the medicine is necessary to save the mother's life and it is not certain

to bring an abortion, though it is likely to do so, then the good effect is greater than the bad effect. You may therefore give the medicine to save the mother and permit the probable death of the child.

2nd. If the medicine is not necessary to save the mother's life, though very useful for the sake of such an advantage, you cannot justly expose the child's life to serious danger.

3rd. If the danger the child is exposed to is not serious, and the remedy, though not necessary, is expected to be very useful to the mother, the remedy may be given.

4th. If the drug is necessary to save the mother, and is as dangerous to the child as it is beneficial to her, can you give the remedy? No, you may not injure the child directly to benefit the mother indirectly; that would be using a bad means to obtain a good end.

This last principle applies to the case of a pregnant mother who has unceasing attacks of vomiting, so much so that if not relieved she will die. The attending physician and consultant agree that there is no way of relieving the vomiting except by emptying the uterus of its living burden. Abortion then is the means used to stop the vomiting. Can you do it? No, because the abortion directly and surely kills the child, as you would a man by driving a dagger through his heart. You can never do evil that good may come.

The only case that it would be permissible to destroy the child's life to save the mother's is when the child is an unjust aggressor, but the child can never be an unjust aggressor as against the mother. Who put it there? God, through the agency of its parents. The child is passive from conception to birth; at most,

therefore, it can be but an innocent aggressor. I will here cite an authority, quoted by Coppens in his work on "Moral Principles and Medical Practice," giving the ethical and medical legal view of an analogous case to that of a child helpless in its mother's womb. It is that of the British yacht *Mignonette*. On July 5th, 1884, the prisoners Dudley and Stephens, with one Brooks and the deceased, who was an English boy 17 years old, part of the crew of the yacht, were shipwrecked 1,600 miles from the Cape of Good Hope, and had to take to an open boat. They had no food or water and lived for 20 days on two pounds of turnips and a small turtle they had caught. On the 18th day, having been without food for 17 days, and without water for two days, the prisoners suggested that someone be sacrificed to save the rest. Brooks dissented and the boy to whom they referred was not consulted. On that day the prisoners spoke of having families, and of their lives being more valuable than that of the boy. The boy was lying in the bottom of the boat, weak and unable to make resistance, nor did he agree to be killed to save the others. Dudley, with the assent of Stephens, went to the boy and, telling him that his time had come, put a knife into his throat and killed him. They fed upon his flesh for four days. On the 4th day the boat was picked up by a passing vessel; the sailors were rescued still alive. The prisoners were carried to the port of Falmouth and committed for trial, the charge being murder. Their excuse was that, if they had not killed the boy and fed upon his flesh, there being no sail in sight, they would have died of starvation before being rescued. They pleaded that there was no chance of saving their lives except by killing some one for the

others to eat. The prisoners were committed for murder and sentenced to death. The evidence in this case showed that the defenseless boy was not an unjust aggressor against their lives. Their only plea was that of expediency. Lord Hale, quoted by Coleridge in this case, has this to say of the exception created by necessity: "If a man be desperately assaulted and in peril of death and cannot otherwise escape, except by killing an innocent person then present, the act will not acquit him of the crime and punishment of murder, for he ought rather to die than kill the innocent." Lord Coleridge further says, in the case of two men on a plank at sea, which can only support one, that the right of one occupant to throw the other overboard to save his own life is considered as unjustifiable homicide. It is sometimes pleaded in justification of abortion that the mother's life is more valuable than the child's. Her social position, her duty to her family and husband, her age and accomplishments all combined to make her life more valuable; but who is to judge of the value of a life? Shakespeare tells us "Macduff was from his mother's womb untimely ripped." Admit the principle and you cannot destroy or kill an innocent aggressor except in self-defense. It at once prohibits the destruction of the fetus at any period of gestation. In many of the United States the law protects an unborn infant from its first stage of ascertainable existence; hence no matter what may be the period of gestation, an indictment lies for its wilful destruction. (Wharton Stille, 861 P.) That the law does guard its interests is shown by the fact that a child born at the extreme limit of gestation, after its father's death, is capable of taking by descent and being appointed executor.

Let me close the paper with an extract from a lecture on obstetrics delivered by Dr. Hodge of Philadelphia, to the students of the University of Pennsylvania:

"We blush while we record the fact, that in this country, in our cities and towns, in this city where literature, science, morality and Christianity are supposed to have so much influence; where all the domestic and social virtues are reported as being in full and delightful exercise; even here individuals, male and female, exist who are continually imbruing their hands and consciences in the blood of unborn infants; yea, even medical men are to be found who, for some trifling pecuniary recompense, will poison the fountains of life, or forcibly induce labor, to the certain destruction of the fetus and not infrequently of the parent.

"So low, gentlemen, is the moral sense of the community on this subject, so ignorant are the greater number of individuals, that even mothers, in many instances, shrink not from the commission of this crime, but will voluntarily destroy their own progeny, in violation of every natural sentiment and in opposition to the laws of God and man. Perhaps there are few individuals in extensive practice who have not had frequent applications made to them by fathers and mothers of unborn infants (respectable and polite in their general appearance and manners) to destroy the fruit of their illicit pleasure, under the vain hope of preserving their reputation by this unnatural and guilty sacrifice.

"Married women, also, from the fear of labor, from indisposition to have the care, the expense, or the trouble of children, or some other motive equally trifling and degrading, have solicited that the

embryo should be destroyed by their medical attendant. And when such individuals are informed of the nature of the transaction, there is an expression of real or pretended surprise that anyone should deem that act improper, much more guilty; nay, in spite even of the solemn warnings of the physician, they will resort to the debased and murderous charlatan, who, for a piece of silver, will annihilate the life of the fetus, and endanger even that of its ignorant or guilty mother.

"This low estimate of the importance of the fetal life is by no means restricted to the ignorant or to the lower classes of society. Educated, refined and fashionable women, yea, in many instances women whose lives are in other respects without reproach—mothers who are devoted with an ardent and self-denying affection to the children who already constitute the family—are perfectly indifferent concerning the fetus in utero. They seem not to realize that the being within them is indeed animate, that it is in verity a human being, body and spirit, that it is of importance, that its value is inestimable, having reference to this world and the next. Hence they in every way neglect its interests. They eat and drink, they walk and ride, they will practice no restraint, but will indulge every caprice, every passion, utterly regardless of the unseen, unloved embryo."

These facts are horrible, but they are too frequent and too true; often, very often, must all the eloquence and all the authority of the practitioner be employed; often he must, as it were, grasp the conscience of his weak and erring patient, and let her know, in language not to be misunderstood, that she is responsible to her Creator for the life of the being

within her. (Wharton and Stille's Med. Jur., Parturition, p. 92.)

In view of some of the facts here presented, what think you, then, of even learned physicians who will ruthlessly destroy a fetus by operative procedure without thought or care for the great moral laws underlying the system of medical jurisprudence—this, too, when the condition of mother needs no immediate interference? It certainly is not justified in moral law, and ought to be condemned by the principles of medical ethics.

DISCUSSION.

W. H. HAUGHEY, BATTLE CREEK.

The papers have treated the subject very exhaustively, and in order to discuss it at any length we must repeat a great deal, and that sometimes can be done with profit. I see that my name is marked after (a). I infer from that that my discussion is to be directed mostly to (a) in the papers above, which is Etiology and Prophylaxis. Certainly the paper on Etiology and Prophylaxis covered the ground. Everything was touched, and one cannot help agreeing with all the deductions and conclusions arrived at by the essayist.

One point, however, although it does not bear wholly on abortion, yet it strikes me ought to be mentioned and taken into consideration when we are considering the etiology of abortions. We have heard mentioned septic endometritis and allied conditions. We have not heard mentioned today what I consider a frequent cause of these conditions, that is, double epididymitis, in the male. It is a fact that many of us have noticed, all of us, I believe, that a person suffering with double epididymitis, which may have been of quite long standing, months perhaps, becoming married, infects the unfortunate woman, who is not only apt to suffer with an abortion pretty soon, but also have left there a condition of inflammation, perhaps of the endometrium, or possibly it may extend higher up the tubes and we may have and frequently do, pyosalpinx. We may not only get that, we may get adhesions, inflammation extending to the adnexa, and uniting all of these organs together, rendering the woman sterile sometimes, or, if not completely so, in a condition favorable to abor-

tion. As soon as she becomes pregnant again, or soon after it, from these irritations, contraction of the uterus takes place, and the ovum is again expelled.

If we will direct our attention to the condition of epididymitis in a male and see to it that all traces of that disease are eliminated before he enters into wedlock, we will in a great many instances, I believe, eliminate one of the fruitful causes of abortion.

The treatment: I wish to touch a little bit on one point of the treatment, and that is in infected cases, where the infection has spread into the uterine walls at least, if not beyond. The treatment we all recommend and subscribe to, is the thorough emptying of that cavity. That is right, but yet it is wonderful how frequently efforts are made to thoroughly empty that cavity that are themselves abortive. The cavity is not completely emptied. But recently I was unfortunate enough to be a medical witness in a case where effort was made in that line. Of course the charge was one of criminal abortion. How that may be I don't know, but when I did the autopsy I found very plain evidence to me of interference in that uterine canal and cavity, and the patient was under treatment for several days, I forget now the exact number, before death took place.

That the cervix had been dilated the plainly marked congestion, on both sides, where the blades of the dilator would have rested, showed I can think of no other instrument that would have made such deep marked congestion as was there, leaving such an ecchymosed and blood-shot condition. Anyway there was evidence that an effort had been made to cleanse out that cavity.

I don't know what the instrument used was. I don't know whether it was a curette or not, but there were certainly parts of the placenta still remaining up near the cornua, and some adhering to the anterior, upper portion of this canal—quite a little bit, perhaps half a dram, maybe a dram, of this broken down, granular mass of placental tissue, still remaining after the patient had expired. The decidua vera was also present.

And all of this notwithstanding there must have been the greatest desire on the part of the operator to thoroughly do his work.

I mention this to show the difficulty (in these cases) to perfectly clean out the uterine cavity, and to urge that in infected cases the work be thoroughly and *early* done, before infection has spread beyond the endometrium. I would recommend that a *dull curette* be used, and the cavity swabbed with strong carbolic acid, or at least a strong disinfectant.

H. W. LONGYEAR, DETROIT.

Just a few words on treatment: I agree in the main with Dr. Yates in the use of the curette, providing you have not some other means that will do the same thing with less trouble and with less injury and irritation to the parts. Some years ago, realizing that the use of the curette was often harmful, usually required the use of an anesthetic, and consequently an assistant, I devised forceps to remove the secundines in cases of abortion, and they have been with me very satisfactory and have largely eliminated the objections to the curette. The instrument is made with a slight turn at the shank where it crosses, and in the blades of the forceps, and is thus so constructed that the jaws of the forceps will open in a very slightly dilated cervical canal; that is the principle upon which they are made, so that they can be introduced where there is very slight dilatation, and thus I find no further dilatation is needed in nine-tenths of the cases that I have seen, so that now I very rarely use the curette. Forceps can be used without producing pain to the patient. Simply put her across the bed in the lithotomy position, place the finger in the vagina against the cervix as a guide, and pass the forceps closed; open them when they are in the uterine cavity, and remove the contents, not usually *en masse*, but fragmentarily. In cases of hemorrhage attending abortion I use this instrument in that way, and always immediately. I do not tampon at all. I place the patient across the bed and in ten or fifteen minutes clear out the uterus completely with them, then wash out the cavity with carbolyzed water. If there has been any septic action at all, I use the iodine carbolic solution; generally I use the mixture recommended by Goodelle in his book under the head of "Endometritis." It is a mixture of iodine, carbolic acid and chloral. When the uterus is completely cleared there will be no more hemorrhage. You do not need a tampon at all. The tampon is an exceedingly unsatisfactory proceeding, and I think very few physicians are able to place one properly so that it does any good at all.

Simply placing a little cotton in the vagina does no good, as it soon settles down into a hard mass, and you get no pressure at all. Very few tampons, I think, are placed so as to be of any use whatever, and even when they are it simply extends the time of misery of the woman unnecessarily. The uterus can be cleaned out in a few minutes with the forceps.

Now, as to the use of the antistreptococcic serum mentioned by the doctor, I think we

should use that understandingly. Not because one has *sepsis*, go and give her a dose of anti-streptococcic serum. How do you know the variety of sepsis? You don't know it until you have made a culture, or in some way made a direct microscopical examination, perhaps of the contents of the uterus, or by taking a culture from the cervical canal and subjecting it to the proper time, and so on, and thus find out what the germ is. It may be the gonococcus, it may be the streptococcus, and it may be the staphylococcus, or the colon bacillus. If you go on before this and put in a dose of the remedy against the streptococcus, you run perhaps one chance in ten of being on the right track.

I think in these cases we should make a bacteriological diagnosis in every case. It is the only way to get at it scientifically.

W. P. MANTON, DETROIT.

I want to say just a word in regard to treatment. The question of the use of the curette is an important one. The employment of the curette depends very largely upon the nature of the abortion. If we have an inevitable abortion, this may be either partial or complete. If the abortion is complete, the ovum is cast off entirely, and there is no need of scraping the decidua membrane away. If, however, the abortion is incomplete, that is, if the membranes rupture,—if the decidua reflexa ruptures, and a portion or all of the decidua reflexa remains behind—then it is important to use the curette, and to get rid of that membrane. It seems to me that in all of these cases, the most important thing—I am not speaking of cases in which septic infection has already taken place—is to get proper drainage. In all pelvic surgery, drainage is of exceeding importance, and I deem it equally important in cases of abortion. If the ovum has been thrown off in its entirety, the cervical canal will be sufficiently patulous to allow the flow to drain away without further interference. If, on the other hand, we have an escape of the fetus, and a portion of the membranes or of the decidua reflexa, or the entire decidua left behind, we very often find that the cervix contracts down and the canal is exceedingly small. In such cases we must dilate the canal and in that way get good drainage. I am not in accord with Dr. Jewett in regard to the use of vaginal douches, especially in cases where there is a possibility of septic infection. I believe that the antiseptic douche removes a certain amount of danger—by washing away the secretion and discharge from the vagina.

I quite agree with Dr. Yates in what he said in regard to the use of the curette. It is not used enough, but at the same time it should be used judiciously, carefully and cautiously, and in those cases where it is indicated, and *not* indiscriminately.

REUBEN PETERSON, ANN ARBOR.

In regard to the first paper, it seems to me we will do well to keep up the old nomenclature of abortion, miscarriage and premature labor. Abortion may be considered to be up to the time of the formation of placenta, three months and a half. That is the time when we should use the sharp curette. After this period, when the uterine sinuses have been formed, we should use the dull curette or finger. If we use the sharp curette at this later period, we are apt to open up the uterine sinuses, and if there is any sepsis, bad results are apt to follow. In regard to the prophylactic treatment Dr. Lynds recommends, I have never seen any good result from the use in threatened abortion of Liquor Sedans, or any medicines of this kind. Morphine has helped. Rest is of more value. What shall the doctor do when he is called to a case of criminal abortion? He wonders whether it is necessary to protect himself. I one time thought that I had adopted a good method of protection in these cases. I had the girl sign a written statement, giving the name of the man who had produced the abortion, and stating that she had called me in to take care of the case. I enclosed this statement in another envelope, sealed them and placed them in the hands of an attorney, with the promise to the girl that if everything turned out all right, that the envelope would be handed back to her with the seal unbroken. Now, my attorney, of course, knew nothing about what the envelope contained. I finally, after adopting this procedure in a few cases, laid this matter before him, and he said that nothing could be worse than a statement secured under these conditions. It would look as if the doctor's part in the transaction was not exactly right and for that reason he had forced the statement out of the girl. This is not only a legal but a common sense view to take of the matter. It seems to me that our only protection is in having a witness in the shape of a colleague whom we call in to give the chloroform and assist us in the case. Our principal defense lies in our past conduct. If we are abortionists, it is generally known by the public. Our character is what stands us in good stead, and that is what we must rely upon.

J. H. CARSTENS, DETROIT.

I just want to say this on Etiology. In my experience, lacerations of the cervix and retro-displacements of the uterus are the most frequent causes of miscarriages. Outside of these natural causes, those produced by abortions are very many, as the doctor said, and so far as the chronic pelvic inflammation is concerned, it results afterwards in sterility and the development of ovarian, fibroid and other tumors.

As far as the treatment is concerned, I think Dr. Yates has splendidly given the whole subject, and there is really nothing to be added. I want to simply emphasize what he said about the curette. I hold that all these cases ought to be thoroughly put under the influence of chloroform, so that you can do the work thoroughly. You ought to be able to explore the uterine cavity, and you cannot with your finger always remove little shreds and pieces of membrane as well as you can with a curette or with a pair of forceps. If we do this we can thoroughly swab out the uterus afterwards with strong carbolic acid, and generally have no trouble at all.

As far as the other point is concerned that the gentleman from Kalamazoo read about, certainly we all agree, I think, there is nobody that would sanction any abortions, and we, every one of us, are most emphatic, and we have to fight that battle almost every day. We have to fight it with women, with individuals and with men; they have no principles. "Why, I didn't think it was wrong; there is nothing wrong about that. I don't feel any life yet," and you cannot make them understand that it is wrong.

But as far as producing abortion is concerned, in certain legitimate cases, that is the correct thing, and I want to very strongly oppose any idea that it is not justifiable to produce abortions. I have seen women die over and over again from the uncontrollable vomiting of pregnancy. What good do you accomplish? Is your fetus alive today or is it dead? I have seen women die as the result of desquamative nephritis, many continuing for a while, and getting worse and worse, and finally the women die as a result of that acute nephritis. Does anyone mean to tell me that it is not justifiable to produce an abortion on that woman? Why, it is most absurd. That child is dead today, and the mother is dead also. Have you accomplished anything? That is no principle at all. If I cannot save both of them, I will save one of them, and the question to me is, which life is the most valuable, and I hold that the mother with a half a dozen children clinging to her, who

need her help in the future, that that mother's life is worth far more than that of the fetus about which I know nothing, which may live or die in the future.

WM. F. METCALF, DETROIT.

I agree in the main with Dr. Yates' line of treatment. I have not myself for twelve years used the tampon. I have not found it necessary. I seldom know or never knew when sepsis has been introduced into the uterus, and I do not think it advisable to tampon and wait for hours until that sepsis has advanced.

I always have been satisfied with clearing out the uterine cavity immediately. It has always been satisfactory, and I do it with the finger if I can. If I find I cannot do it thoroughly with the finger, then I use the curette, but I guide the curette with my finger. I have not so educated my sense of touch that I can extend my nerve endings to the end of the curette, and cannot determine whether a uterine cavity is clean after a curettage or not, therefore in every case where possible I do the work with my finger, using the curette in some cases where the particles cannot be removed with the finger.

Dr. Carstens' emphatic statement of our position in the matter of justifiable abortion indicates the religion for succeeding generations in reference to this matter. We are directing and forming the religion, or the laws which relate individuals to each other, for those who follow us, and there need be no confusion. One would infer from Dr. Welsh's paper that members of this society, recognized members of this society, lightly sacrifice the life of a fetus; that is not so. If it be known that a member of this society takes such a position, he would not maintain his standing in the society. The implication is that the members of the State Society regard lightly this matter. That would be the inference of a layman, perhaps, present at this meeting. This is not true.

One other thought Dr. Carstens spoke of: The production of abortion in cases of persistent nausea. In many of those cases, if we dilate to the full extent of the cervical muscle, there will be no abortion and the nausea will be stopped. I believe that to be true in a majority of cases.

C. K. LAHUIS, KALAMAZOO.

To somewhat enlighten Dr. Metcalf and possibly Dr. Peterson, in regard to the statement at least Dr. Metcalf just made, that not any of our members are guilty of criminal abortion, and at the same time probably explain why Dr. Welsh

takes this very strong position, I would like to state that there are members of this society that are known to commit criminal abortion day after day. I make it a practice, as Dr. Peterson said he did at one time, to get a statement from every patient of this nature I am called to. I make out the statement, and have it signed in the presence of witnesses, that "such and such a doctor, knowing my condition, introduced instruments into my womb repeatedly;" and these written statements are in my possession. Have I proof that will hold in court to make a statement against that man? This is about the view I would like to have the members of this section discuss this afternoon. How can we reach these criminal abortionists? Even though I have these papers in my possession, are they proof evident before a court of justice? The patients survived. If they had died, I think we could have made very short work of this man. Now, what can we do in those cases? If some of the older members could help me out, I would like it very much. I always have another man present with me when the patient makes the statement. Now, a member like that has been admitted to the State Society, and his blank has been signed by—I am not absolutely sure, but the statement has been made to me that his blank has been signed by members of the staff of the State University. He is not a member of the local society, and could never hold a membership in his local society.

J. G. LYND, ANN ARBOR.

In closing the discussion, I wish to refer to the use of the curette, finger or forceps, in clearing out the uterus. I would like to say that so far as my experience goes in clearing out the uterus with the finger, it has been unsatisfactory. When the uterus is large enough to get your finger in, it is too large to reach the fundus so as to clear it out thoroughly with your finger, and when it is too small to get your finger in, of course it is useless. The combination of the forceps, the curette forceps, such as Dr. Longyear described, and the curette, is what I have found the most satisfactory. You can get hold of pieces of the membrane and pieces of the placenta, and pieces of the chorion with the forceps that you cannot remove with the curette; the curette will slip over them; and you can get pieces that are left behind with the curette that the forceps will not get. I usually get out all I can with the forceps and then run over the uterine wall with the curette to be sure that it is cleaned out, and then wash it out with some sterile solution.

There is just one other thing in regard to the division, premature delivery, abortion, miscarriage and premature labor.

One would almost think from some of this discussion and the books, that suddenly, at the fourth month, the placenta springs into existence and up to that time there is none. That is a mistaken idea entirely, because from the time that the ovum begins to develop, and the chorion to form, there is a gradual development of the placenta, and there is placental tissue developed in the second month, but it is not so thoroughly developed as it is in the fourth; at the fourth month all the chorionic tissue has atrophied, and there is nothing then over the transparent membranes, except at the point of the placenta, but up to that time the point of the development of the placenta is thicker and heavier, gradually becoming more and more so until it is fully formed by the fourth month.

H. W. YATES, DETROIT.

I do not quite get the pertinency of Dr. Peterson's objection to not obtaining a statement from the patient. This has been brought up to me many times. It has to every practitioner who does work of this kind, but brought up to me especially bluntly in a case that I was called to see very soon after the Elizabeth Mahan case, so-called, in Detroit. I was called to see a married woman who had had a criminal operation performed. That was admitted. I knew nothing of who performed it, and they did not tell me, but on making the examination I attempted to first of all discover the depth of the uterus, and I did it as gently as I knew how, because, as there was a septic condition, I didn't know how soft those drawn walls were, and I didn't know how easily I might go through them, and consequently I did it with as much delicacy of touch as I was capable, and yet my probe passed immediately through the uterine cavity, or rather, I thought it passed through. It did not seem as if it was possible that the uterus was so high from what I could feel above the pubis, and so I took a large instrument and introduced it in the uterus, doing the same thing as delicately as possible. This was a large-sized urethral sound, and it passed through without absolutely any resistance whatever, and so much so that I could place my hand gently over the abdominal wall and feel this sound. Now, I had obtained the statement in this case because I knew it was a criminal condition I had to deal with, notwithstanding the fact that I had a physician there as my assistant, who was there to bear me out. I believe that we should not de-

pend alone upon our reputation in the past for these things. Many a man's reputation in the past won't carry him through when he comes into a criminal court; he is in a different corner than he has ever been in before. If he is judged according to his fellow physicians, he may come out all right, but when he is on the witness stand in a criminal court, I imagine it is a different proceeding altogether.

In regard to Dr. Manton's remark regarding the vaginal douche, I think he has misconstrued it. As a matter of fact, the douche was referred to as the vaginal douche, not as the uterine douche, and Jewett did not bring that out at all, simply speaking of the vaginal secretions, all of us recognizing the necessity sometimes of a uterine douche.

Dr. Longyear's forceps I am familiar with, and fortunately own one, and have used it with much pleasure, but I have not been able—perhaps because of my clumsiness with it, and perhaps because I haven't used it sufficiently; at least I am not familiar enough with its use so that I can obtain all the decidua in these cases without the curette. At least on using a curette after using the forceps, I get some of the placental tissue, or the decidua.

In regard, also, to Dr. Longyear's remark of the antistreptococcic serum, I believe his remarks are certainly apropos, but as to our delay in using the serum, I don't see any particular reason for it. The mere fact whether or not we have a streptococcic infection alone, doesn't make any particular difference in regard to the use of the antistreptococcic serum, because it is perfectly safe to use in any quantity, and it would seem, if we are suspicious that the patient has a streptococcic infection, that we should use it freely, and at the same time take a culture to ascertain definitely the kind of infection.

I believe all that Dr. Metcalf brought out relative to the curette, and in many cases the curette does harm; I believe that the finger should do all that can be done, but in recent abortions the uterus is so small that the finger cannot get it away, that is, in order to make a perfect curette of your finger you must have a perfect flexion, and the uterus in these early abortions will not admit of that flexion.

A. H. ROCKWELL, KALAMAZOO.

It seems to me that there is a little confusion in the discussion of this question. It seems to me that no physician would attempt to destroy the life of a fetus that he believed it was possible to save. If it is possible to save the life of the

fetus, it is probable that both lives can be saved. If it is determined beyond peradventure, by good counsel, that the mother's life will surely be sacrificed unless the abortion is produced, it necessarily follows that the life of the fetus also will be sacrificed; so there you have it. Both lives are practically sacrificed unless interference is had.

Now, it seems to me very clear that it is our duty to save one life; they are both in the pit; we can reach down and get one of them, we cannot get both. No physician, as I said, would attempt to sacrifice the life of a fetus that he believed it was possible to save, because if it is possible to save the life of the fetus it is probable that he can save both lives.

RUPTURE OF INTESTINE—OPERATION, RECOVERY.

FREDERICK W. ROBBINS,
Detroit.

H. P., age 41, a farm laborer, was at eleven a. m., Nov. 16th, 1901, loading beets from a wagon to a flat car standing on a siding about eight miles from the city of Detroit. While thus engaged two cars were shunted on to the same siding; no brakeman being in attendance, they struck the beet car with considerable force. The horses became frightened, unmanageable, and ran, throwing our patient; but he has no knowledge of how or upon what he fell. When I saw him five hours after the accident he had been given two doses of morphine by Dr. J. S. Dohany, who was in attendance, yet was groaning with severe pain across the lower part of the abdomen, which was increased by pressure. There was no bloating or loss of liver dullness, no shock or rise of temperature; the pulse was about one hundred and five. Urine was normal in quantity and not tinged with blood. From these last negative symptoms injury to the kidneys or bladder was excluded, and

notwithstanding absence of tympanites and presence of liver dullness it seemed to me that the severe pain, not controlled easily by morphine, pointed to some grave internal injury. There was no vomiting to call one's attention to acute obstruction of volvulus, nor was there any mark or contusion on the abdomen. The diagnosis of probable rupture of the intestine was made and with it came the determination to operate on this man, as soon as possible, before peritonitis should begin its deadly work. Patient came to the city hall sitting in a suburban car and from there taken to St. Mary's Hospital. Dr. Theodore A. McGraw, chief surgeon of the Pere Marquette Railroad, was asked to see the patient, and coincided in the diagnosis and wisdom of immediate operation, during which he assisted with kindly and wise suggestions.

At eight o'clock, nine hours after accident, I opened abdomen in median line and at once a yellowish white fluid began to flow out, and on the intestine for a distance of nearly two feet there was considerable exudate. After a short search an opening the size of a large hazelnut was found. Its edges were rolled out and from the opening, intestinal contents were coming. The wound was stitched with fine silk, entire abdominal cavity thoroughly irrigated, abdominal wall carefully sutured layer by layer and a drain left in place. At time of operation temperature was 99.9°, pulse 98. At eleven-thirty of same day temperature was 99°, pulse 108. On the first and second day following temperature reached 100.3°, but at no other time did it reach 100°.

The pulse, however, ranged above 100 for eleven days, usually from 104 to 110, but for some reason on the fifth day after

operation the bowels became quite tympanitic and pulse ran from 120 to 126, and there was some hiccough, but in other respects patient seemed in good condition. On removal of drain and giving laxative, gas was expelled and there was no further trouble. He left the hospital entirely well Jan. 2nd, 1902, but had practically recovered in three weeks after operation.

It is not often that one has the opportunity to save a life after an injury like this. Given the opportunity, is it always grasped? Aside from wounds of important blood vessels one can hardly imagine a case where the life of the injured hangs more directly upon the good judgment and quick action of the surgeon.

After this short clinical history there are a few points to be briefly considered, namely: nature of the wound, symptoms and treatment. As to the nature of the wound, it has usually been attributed to sudden sharp blows upon the abdomen, which, when coils of intestines are distended with gas, will produce rupture, usually at some point where there is permanent fixation, as junction of fixed duodenum and movable jejunum.

A. Schmidt, however, in *Münchener Medicinische Wochenschrift*, July 12th, 1898, reports eight cases of intestinal injury by compression against the vertebra, and H. C. Keenan, *Phila. Med. Journal*, Sept. 2nd, 1899, reports Curtis as claiming that most cases of so-called rupture are contused lacerated wounds. The bowel would not be torn unless it be caught between force in front and spine or pelvic bone behind. Also that a bowel moderately distended is apt to escape. He, however, admits that true rupture may take place if separated portions of the intestine be largely distended. In my case there

was no distention of bowels, which were nearly empty. No gas had entered abdominal cavity, as evidenced by absence of tympanites and normal presence of liver dullness. The bicycle rider who occasionally rim cuts his flaccid tire can well appreciate the contusion or laceration of the intestine from a fall upon a cart wheel or other hard body, by which means the intestine is forcibly driven against the spinal column. In my case there was not a mark on the body and the intestine was perfectly healthy, and I have no hesitancy in classing it as a case of lacerated wound. While this was a complete lacerated wound it must be borne in mind that contusions of all grades can be produced in the same way. If of moderate severity the patient will recover with or without a mild localized peritonitis, but if the contusion is a severe one it is quite possible after several days to have a perforation due to pressure necrosis and sloughing, with death of the patient a very probable result. I have been asked why I operated on this case. This question naturally causes us to study the symptoms as observed by various authors in order to see if there are any signs which may be depended on. Ashunt mentions immediate fainting and collapse, then intense pain, agonizing or burning in character. He lays little stress on the character of the pulse, which may be slow, feeble and intermitting, or natural. Thirst and vomiting are mentioned.

Angerer claims that shock has little diagnostic value. Pulse weak, frequent. Pain may be absent, and says that liver dullness disappears only when rupture is near the liver.

De Costa gives profound shock, tympanites and pain as first symptoms. Vomiting and thoracic respiration are usually

present, with dry tongue and great thirst. Pulse, at first slow, becomes rapid with high tension.

Rose and Carless speak just of severe, lasting shock and intense abdominal pain. Immediate is the onset of acute peritonitis. Vomiting, they say, is not a marked feature, and the diagnosis must be uncertain in the absence of resonance over liver or emphysema of abdominal walls, the thorax not being injured.

Richardson mentions pain as the leading symptom, usually followed by immediate and fatal peritonitis.

American Text Book of Surgery does not mention pain as a symptom.

Not to recite further authorities, it appears that observers have noticed very different symptoms as applied to individual cases. When accumulations of gas are in the intestinal tract tympanites may be so marked that the solid viscera cannot be outlined, and it is fair to presume that abdominal emphysema in the absence of thoracic injury is pathognomonic of intestinal rupture.

Shock may or may not be an important symptom, depending probably upon the nervous make-up of the individual, and possibly the extent of rupture; although one case is mentioned where a boy walked nearly a mile after the intestine was torn in two.

Where shock is great, the pulse would naturally be slow, as it usually is in shock, and becomes fast later. In my case there were just two symptoms that marked a serious injury, namely, a rapid pulse and agonizing pain. It was the symptom of pain increased on pressure that led to the diagnosis of serious internal injury. I do not believe it scarcely possible that such severe pain could come from a severe

contusion of the soft parts. Rather would the nerve endings be paralyzed, and even if the contusion be so severe as to later produce slough, we might by the absence of severe pain be lulled into a sense of security. In such case it would be the part of wisdom to keep the patient absolutely quiet with opiates on the one hand and by an absolutely starvation diet and possible washing out of the stomach, if the injury was soon after having taken a meal, to lessen intestinal action and allow a plastic exudate to form and protect the peritoneum. The intense pain, it seems to me, is due to a local irritation of the peritoneum, rather than to the injury of intestine. In cases as in mine, where the location of the pain is such that other important organs are probably not affected, it is not safe to wait until general peritonitis sets in before knowing what the trouble is, and the authorities are much more a unit as to the treatment than they are as to the symptoms. Yet some of them are not to my mind radical enough, the older writers naturally advising an expectant plan of treatment, or the careful consideration of the question of laparotomy. Rose and Carless, who do not think symptoms very satisfactory, say that in the absence of distinct symptoms the treatment must be expectant.

The American Text Book of Surgery: If rupture is improbable, patient is to be kept quiet in bed and will usually recover from contusions, but if rupture is probable immediate laparotomy gives better chances than does waiting for symptoms.

De Costa is practically in accord with the idea of operation, but in cases of shock differs from several others in advising waiting for reaction. Angerer says that laparotomy is to be performed in all doubtful cases. "One should not hesitate

to operate during shock." "More cases die from conservatism than any other cause."

Albert: "There is no clearer indication for laparotomy than rupture of intestine."

Such is the position taken by well-known authorities. The opinions of those writing previous to the modern operating era are worthless today. It is well to keep in mind that portion of my quotation from Angerer: "More cases die from conservatism than any other cause;" then given a case of probable rupture of the intestine, the question should be, not shall a laparotomy be performed, but how soon will it be possible to properly prepare the patient and his surroundings that a laparotomy may be conscientiously done? Mistakes in diagnosis may sometimes be made, and an operation be futile, but the operation will not be the mistake.

DISCUSSION.

J. A. MCMILLAN, DETROIT.

Many of us do not very often have an opportunity of having such an experience as Dr. Robbins had; I think that these cases are very valuable to us when they are reported, and I think the doctor is to be complimented upon the rapidity with which he made up his mind to do that operation.

It would seem that the conclusion to be drawn from the operation is this: that when there is a history of any accident or other injury that might be likely to cause a rupture of the intestine, the thing to do is to operate and to be sure of your diagnosis; and if there be no laceration or rupture of the intestine, no harm is done, and if there be a laceration or rupture you give the patient the only possible chance there is for his life.

G. C. HAFFORD, ALBION.

I would like to put on record this afternoon a case in which the ending was not so favorable as in Dr. Robbins' case, and I mention it because it never has been mentioned before, and it bears out the advice which has been given us as to an

operation even when diagnostic signs are lacking.

I was called something over ten years ago to see a man who, while riding a bicycle, had fallen; he was riding the bicycle on a tramway 15 or 16 feet high, and in falling over the tramway he fell in such a manner that the handle of the bicycle punched the abdomen in the region of the umbilicus. He got up and walked about a half mile to his home; he complained of no pain, no dizziness and no nausea. He felt very well until about six hours afterwards, when he began to have trouble—the symptoms I cannot tell. I was not present and do not remember them all, anyway. In about 36 hours death occurred, and I was sent for to perform the autopsy, as there was some question as to the cause of death. At the autopsy we found a hole in the small intestine perhaps an inch and a half or two inches in diameter, with no attempt to repair by nature, and with not as much general peritonitis as you would expect in that length of time. The hole seemed to be as cleanly punched out as though a section of the bowel was removed. It was not a rent or slit, it was a round hole, and you could not see that any part of the intestine was missing. There is not much doubt but that a timely operation would have saved this man, and so we have the lesson again. In doubt, make an exploratory operation early. Dr. Robbins is to be congratulated as well as his patient, for these cases require courage and good judgment to do what to the patient and friends may seem unnecessary.

L. J. HIRSCHMAN, DETROIT.

I would like to have Dr. Robbins tell us whether, when he opened the abdomen, nine or ten hours after the injury, there was any attempt of nature to close the wound, by agglutination of omentum or other serous surfaces to the point of rupture?

F. W. ROBBINS, DETROIT.

In this case there was no blood count; there was scarcely an opportunity between five o'clock, when I saw him, and eight o'clock, when he was operated upon, to make a blood count. Though it might have been done, I don't see how it could have revealed any great departure from the normal.

In this case there was no evident attempt at repair; the intestine for a distance of nearly two feet was red and covered with lymph; at the point of the opening of the wound the intestine was rolled out, as we naturally expect when the intestine is cut; there was considerable white lymphoid material that appeared when the opening

into the abdomen was made. Peritonitis was just beginning and there seemed to be no abnormality of the parts except so far as the fibrinoid exudate was evident upon the intestine for a distance of one and a half to two feet.

THERAPEUTIC ACTION OF THE ROENTGEN RAYS IN DERMA- TOSIS AND MALIGNANT GROWTHS.

HENRY R. VARNEY,
Detroit.

It is now a well-established fact that the Finsen light, the electric arc light, used by Malcolm Morris in London, Eng., and the Roentgen Rays, now being used by careful investigators in this country, are effective therapeutic agents in dermatological lesions, and some malignant growths, as sarcoma and epithelioma.

At no time in the history of our profession has so much interest been awakened in the research as to the cause of cancer and its treatment as at the present time. While it may be true that Americans are following the lead of Europeans in the light treatment, if radiotherapy in this country, with our state-sustained Research Cancer Laboratory at Buffalo, N. Y., is any index, we may yet lead Europe in some improved methods or results obtained.

So rapid and almost marvelous have been the results of cases under radiotherapy, by Drs. Pusey, of Chicago, Morton, of New York City, Williams, of Boston, and many others, that to ask the profession to accept such reports without seeing the cases, or the photographs of the results, is asking, to my mind, more than has ever in former history been expected of the surgeon or general practitioner; for we all know that statistics do lie, and the

microscope is accommodating. Then, too, mistakes in diagnosis might occur.

As a therapeutic agent, the ray has grown in favor for the past two years. Just the form of growths the sure relief of which it is particularly adapted to, and the duration of the relief, is as yet unsettled. However, another year's careful investigation may determine its exact field of usefulness. Every day brings to light some new apparatus for producing the ray, the time of exposures, the penetrating power of the ray, the absorbent properties of the tissues as regards the ray in different cases, etc., etc., and today we find ourselves with no universal technique in administering this therapeutic agent.

Less than a year ago, most operators deemed the coil-production of the ray, with its high amperage and low voltage, the only production that would bring about stimulating changes in the normal tissues and abnormal growths. My experience has been that the small static exciter of the rays, with its low amperage and high voltage, compared to the coil, is less liable to burn, does not destroy new tissue growths so frequently, has a far more steady ray, can be run for hours without heating the electrodes, is cheaper to operate, and that the therapeutic results are more gratifying than with the heavy coil exciter of the ray. There is a great diversity of opinion, however, as to the most satisfactory apparatus for the production of therapeutic results.

The apparatus used by me for the last six months is an eight-plate static exciter, with highly interrupted induction current. It has a rheostat regulation speed of about 350 revolutions a minute, of thirty-two inch plates. The current produced is less than one ampere, and with a German tube a very satisfactory ray is pro-

duced, one that will penetrate the body, show heart action and diaphragm. Tubes, when new, should have a very low vacuum which will not force back a spark gap of more than an inch. This tube is termed a soft tube by Radiotherapists. It produces a ray of bluish purple, which has little power to penetrate the tissues as far as can be seen by the flouroscope. By this ray we can bring out a clear radiograph, not because it has more action on the sensitized plate, but because most operators overexpose with a hard tube, and the ray, with its great penetrating power, passes through the bone, giving faint shadow of the bone on the plate; while with a soft tube a deep, distinct shadow is obtained. Yet, tubes in use are constantly changing. The new soft tube this week, used for four hours each day, is a medium tube next, and in another week it has become a hard tube. In a short time it is useless. Hence, the operator must constantly test his tubes, for each has its field of therapeutic action. The soft tube, with its low penetrating power, has a far more rapid stimulating action, superficially, on the normal tissue than does the highly penetrating hard tube, and it is with this soft tube that we must watch carefully for over-stimulation or destruction to tissue. Hence we find the soft tube particularly adapted to superficial dermatoses and growths, while to influence the deep-seated, malignant conditions, we must use the medium, or hard tube. Having, therefore, acquainted ourselves with the degrees of penetration and action of the different tubes, we must then study the normal density of different tissues. The power of the rays to penetrate the tissues was first demonstrated by Godneff, who placed sealed glass tubes containing chloride of silver in the tis-

sues of the cat and dog. Upon exposure, this chloride was blackened, which did not occur in the case of the unexposed tubes. I have also noted, in treatment of large epithelioma of the breast, involving the whole axilla, and extending two inches on the back, that in exposing the anterior surface, the posterior surface healed almost as rapidly as the anterior surface, by the rays passing through the patient's body.

Recurrent scirus nodules in a remaining breast have been completely carried away, as well as osteo-sarcoma developments. Therefore, much is to be expected of the penetrating power of the ray, its field of usefulness being far greater than superficial growths and lesions.

The action of the rays upon normal cell tissues produces a radiant energy, which is a stimulation of that cell, and this stimulation, long continued, will produce atrophy and death, as noted by the action of the rays on the hair bulb. This same chemical, radiant energy thrown upon a pathological cell surrounded by the stimulated normal cell, it is only a question of time when the cell with the least resistance will be broken down first, atrophied, rendered harmless and carried away by the highly stimulated normal cell.

While we have a decided action upon pathological conditions by the rays, it is not due wholly to its action upon micro-organisms. We know that typhoid bacillus, the anthrax, and the bacillus pyocaneus grow best in the dark; next best, in red light, or the heat ray, and poorest, in the chemical ray or violent light. All rays of the spectrum hamper germ life, in over-stimulation of the germ or retarding growth.

In exposing tubercle bacilli to the rays, different duration of time and placing

them in an incubator the temperature of the human body, with control tubes inoculated at the same time, from the same culture, distinct growth was apparent in the exposed tubes within forty-eight hours, showing that the action of the rays, in lupus, is not wholly antiseptic or chemical, but a stimulation of overgrowth of the germ by ethereal vibrations, or an adverse attenuation of the germ by overgrowth, with stimulation of the normal tissue, rendering this tissue unsuitable for the growth of the germ, and casting off the germ in the pathological debris.

Repeated illustrations of exposure of ulcerated surfaces, indurated acne, and tubercular gumma show that pus-forming germs are checked, inhibited in their growth. A foul-discharging ulcerating epithelioma, after but few exposures, becomes clean, odor no longer noticeable, and discharge greatly diminished; the growth assumes a healthy look; so with the cold abscess type of skin lesions. It not only checks the formation, but also carries away their ptomaine, and brings about far less scarring than any other stimulating therapeutic application known. Yet the required stimulation to kill germs has no constant relation to the impairment of their growth, or overgrowth. Different bacilli are differently influenced by the rays (chemically an antiseptic action or ethereal vibration stimulation is overgrowth).

The lowest forms of germ life, in stagnant water, show almost instant stimulation when the rays are thrown upon an unprotected field of this form of life, while with continued exposure activity grows less, and soon the whole field is quiet, with the addition of sterilized water to counteract evaporation. Stimulation occurred at once, lasting for from one-

half to twelve minutes, when death to all life was apparent. This stimulating effect upon the normal tissue, and just what takes place in the tissues during stimulation, affords a most interesting field for experimental study, and may offer something new to our pathology at the present time.

In watching the circulation of the tadpole, mounted upon a microscopic stage, its body carefully wrapped in absorbent cotton, which not only keeps the tadpole quiet, but furnishes a good supply of water, I was able to note changes in its tail before and during a long stimulating exposure to the rays. The first change noticed was a quickening of the current, with the blood cells traveling single file in the vessel. Second, in less than a fourth of a minute there was a slowing of the current, with an increase in the number of blood cells, the white increasing more rapidly than the red, traveling now three abreast. Third, current at a stasis blocked by the rapidly increasing numbers of white cells. Fourth, the white cells were seen passing through and outside of the vessel walls until the whole field was one mass of cells. Finsen, and others, have noted nearly the same changes, and have also reported a change in the shape of the red blood cells, that they became contracted and stubbed. Yet there was no death to the cell nor loss of hemoglobin. This I have not observed, so far.

If we were to compare the condition existing in a normal inflammation, with its hyperemia and heat, redness, swelling, pain, irritation, contraction, and dilatation of the vessels, exceleration of the current, retardation, partial or complete escape of white cells through the vessel wall, phagocytosis, general cell proliferation, reorganization and repair, and cicatrization, we

would discover that the histiological conditions existing in the stimulation produced by the rays are similar, if not identical, exciting a normal process of repair in the normal tissues.

This inflammation, produced gradually by the rays, does not cause pain. But if pain existed before exposure it is the exception to a most constant rule if the pain is not relieved with from one to three exposures. Yet if an extensive reaction is produced, great pain will result as in an extensive, deep-seated inflammation from any other cause.

We know from experiments with plant life that the electric arc light has nearly the same vital stimulating influence as the sun's rays. Siemens found that plants exposed to the sun's rays six hours, and six hours to electric light, far surpassed those in darkness, or under ordinary conditions. Plants were more vigorous and flavor of fruit unsurpassed. The chemical or actinic ray of the sun, causing erythema or sunburn, produces the same action as the arc light, except that it results more quickly with the electric light, with no sensation of a burn, as with the sun's rays, until days after the effect is produced, because of the absence of the red, or heat ray, showing the same stimulating influence upon the skin.

When this physiological, stimulating effect is produced, the waxy edge of the epithelioma can be seen being rapidly carried away from day to day. The same is true in Keloid deposits, tubercular enlargements, and osteosarcomatus tumors. It is extremely important that the operator produce this stimulating effect gradually, and that he continue the effect without overstimulation and destruction of new tissue or atrophy of normal tissue. This characteristic, stimulating condition

once produced, may spread for a week, and continue two weeks, involving areas far remote from the exposed parts, and if the lesion is local and superficial, treatment may be stopped, and when inflammation subsides the lesion will be much improved, if not entirely healed. If it be a malignant, deep-seated growth, softening and diminution in size will be apparent. If an open ulcer is being treated, there will be less discharge, absence of odor, relief from pain, but not a result unless the physiological effect is obtained. In grave, inoperable, malignant conditions, where stimulation, most active, must be continually kept up, by protection of your areas of dermatitis, with tin-foil or sheet-lead, different areas of the growth, at different angles, may be exposed. I have cases that have been with me for from three to six months, that have peeled from four to twelve times, yet lose only now and then one of continuous daily exposures, with but little, if any, injury or destruction of normal tissues.

If we were to compare a normal inflammation with the stimulation produced by the rays, we would discover that the existing conditions, histologically, are similar, if not identical.

There can be no definite, universal rule, in applying the rays in different classes of disease, or in patients with the same disease, for no two cases react the same, with practically the same ray. Every case is at the mercy of the operator, who should always begin exposures of short duration, should examine the parts exposed, before and after every treatment, note the first stimulating symptom, erythema. Blondes react more quickly than brunettes; old people more slowly than the middle-aged, or young, and are much more liable to burn. Because of less cell

resistance, tissues near the bone react more rapidly than tissues having fat underlying them.

Just here let me emphasize the importance of administering enough of the rays to cause chemical retrogression of the pathological condition, and not destroy the ethereal vibration in the normal tissue, if a result is to be obtained.

Two years ago Finsen stated that the diseases that are to be treated successfully by phototherapy, must be: First, local; second, superficial; third, bacterial; and that the ray applied must be strong, concentrated and cool. The advance made in radiotherapy since then, with its great penetration, gives us much encouragement for future research.

From a therapeutic standpoint, it is yet unsettled whether radiotherapy is to excel the enormous success of phototherapy in Copenhagen and London, or that they are identical in their action. Certainly results are apparent with both.

In no way do I wish to convey the impression that the ray is a cure-all in malignant conditions. While we have, as far as can be determined, a complete removal of the growth, yet some cases will show only a checking of the growth for a time, and relief of pain; then suddenly it will grow as rapidly as before, the ray seeming to have lost effect, even though an increase in time of exposure be given. At no time have I allowed the rays to offer a substitute where the patient would submit to a complete removal by the surgeon.

Yet I believe we are on the eve of a revolution in the management of many deforming skin affections, and that the surgeon may be encouraged in attempting the removal of what seems a hopeless, in-

operable, malignant condition, because of the rays offering one more source of relief, if there is a recurrence. I believe in the application of the rays after every operation for the removal of the malignant conditions, for it can do no harm, and it may assist in the stimulation of normal repair. Cases of this class that have been referred to me by surgeons, with rapidly recurring conditions, which I am sure would have resulted in death, have been greatly benefited. Many of them are practically well as far as can be determined, up to date, and in some cases many months have elapsed since this after-operation treatment has been discontinued.

In studying farther this new field of research, I have with me a few types of diseases that are influenced by this treatment and will perhaps be of more interest to the society from a practical standpoint. They are now under treatment, and may aid in illustrating the action of the rays. These patients are, with but few exceptions, those referred to me by surgeons from different parts of the state and Canada, to whom we are indebted as well as to the patients who have so kindly consented to come before us.

In conclusion, let us note what is accomplished by the rays:

First: Relief of pain.

Second: Diminution of new growths.

Third: Hampers germ life.

Fourth: Assists in disappearance of odor and discharge.

Fifth: Excites a normal process of repair.

Dangers and uncertainties:

First: Possibilities of burns and gangrene.

Second: Indefinite dosage.

Third: No universal technique.

Fourth: Difficulty in ascertaining when you are at the danger point in overstimulation.

Fifth: Similar diseases pathologically do not react the same.

DISCUSSION.

F. B. TIBBALS, DETROIT.

We are all indebted to Dr. Varney for an exceedingly interesting paper and for the exhibition of a number of interesting cases. It is a new topic, and a topic which few of us know much of, from the standpoint of personal experience. My own experience with the rays is limited; few men, perhaps one or two in each city, have the necessary apparatus, and that is properly so from the expense of the apparatus, and the length of time required in the treatment of cases and the amount of experience necessary in order to properly treat these cases, because from what the doctor has told us a good deal of experience is necessary as to the length of exposure, the method of exposure, and the kind of tube and apparatus to be used. There is no question at all but that the X-ray treatment is a great addition to the treatment of lupus, but whether the ray will ever take the place of operative treatment for malignant diseases is a matter of doubt. I question it. We will for years, at least, prefer the knife in cases of operable malignant disease, but in many cases which are inoperable, which have been hopeless heretofore, and in cases of recurrence after operation, the rays appear to have an exceedingly brilliant future, and we can all hope, at least, that the prospects which now appear will by the lapse of time be proven to be absolutely correct; time has not yet gone by sufficiently to prove that these apparent recoveries are permanent.

W. E. NEWARK, CHARLOTTE.

I want to thank Dr. Varney for the very interesting paper given us, and for the cases he has shown us. I have been reading the literature upon this subject and experimenting a little along these lines; I haven't had the chance to treat the number of cases he has, because I haven't had the opportunity. I am very much interested in the subject. I have been reading of such men as Puney, of Chicago, and Morgan, of New York, but I didn't know we had such an able operator near by. I am glad I have seen the doctor, and hope I may see more of him in the future. One more

point that I wish to emphasize: A few days ago I saw a bad burn from the X-ray, and I think physicians ought to be careful about over-exposure; it is a bad advertisement for the X-ray, as well as for the physician. I think we ought to be very careful. I am very much pleased that I could be here to hear this paper.

W. T. DODGE, BIG RAPIDS.

The report that has been given by Dr. Varney has been an exceedingly interesting one, and if any of you have not been following the reports of such cases it must be a considerable of a surprise to you.

We have all seen scattering reports of the use of the X-ray in malignant growths for the past year or so. I had no faith in the efficacy of the treatment until about four months ago, when the reports became so definite, and pictures similar to those exhibited here today, published by Dr. Morton, of New York, and others, became so numerous that I began the use of the treatment, first in a case of cancer of the throat and tongue. The patient had got to a point where it was evident that death would soon ensue; he had reached the point where it was only possible for him to swallow small quantities of liquids, and he was rapidly undergoing starvation; he had an ulcerated sinus through the throat to the neck, and the odor from him was exceedingly offensive. After the second or third exposure to the X-rays the odor disappeared, the swelling subsided rapidly, and after a period of four months' treatment he is very much improved. There is still a great deal of disease in his tongue and in his throat, but nevertheless he is able to swallow solid food and he is gaining in flesh. After observing the improvement in his case, I sent for the return of a patient upon whom I had operated in January for cancer of the vagina. You know that is a malignant affection and return usually takes place after operation. Early in January I operated upon the lady, and the pathologist reported the growth to be a carcinoma. Recurrence soon took place, and subsequently I received several secondary nodules. She returned home in six weeks.

Upon my solicitation she was brought back eight weeks ago, when she was suffering intense pain, requiring eight quarter grain doses of morphine every twenty-four hours, and was unable to sleep. There was an extensive recurrence of the growth. The entire vulva and clitoris was enlarged and hard; there were three large nodules, one of them as large as a hen's egg and one as large as my fist in the abdominal wall; I

gave her a very long exposure the first time, taking long chances in producing burns; at the present time the superficial growths have disappeared, there is some disease in the vagina, and apparently some in the uterus, though there was no disease in the uterus six months ago, but all the external growths have disappeared completely and the woman has grown in flesh and is able to walk around.

H. R. VARNEY, DETROIT.

In regard to the question of burns, I showed you a case of burning today. I believe one has to burn them and keep burning them as long as the extent of the burn is known.

In regard to the after-treatment of malignant cases, I can now say, as I did in my paper, it certainly can do no harm, and I believe it is worth a trial.

I have several cases referred by Dr. McGraw and others, of osteo-sarcoma, that come to me twice a week, giving the rays as a preventive of any recurrence, and they are comfortable as far as we can see; there is no recurrence. We do not know what we shall accomplish, but we deem it worthy of trial.

I have not treated cases of cancer of the stomach, and other abdominal growths as yet.

I do not hold out the ray as a cure-all. I have failures and I have cases where I can only check the growth for a short time, but still these patients are made comfortable without opiates. As a rule they come and take exposure, after which they sleep well.

Report of Committee on Necrology.

Since the printing of the Report of the Committee on Necrology (Vol. I, No. 3, November, 1902) the Editor has received the following information relative to the life of Dr. Chas. F. Morgan, of Greenville:

Doctor Charles F. Morgan was born at North Wilton, N. Y., Oct. 6, 1845. He served one year in the army, enlisting in 1861, and was discharged for disabili-

ties received in service. He graduated from Yale in January, 1866, and practiced at Mt. Morris, N. Y., until the spring, 1869, when he came to Michigan and associated himself with Dr. J. B. Drummond at Greenville. In 1885 he took a post-graduate course at Bellevue Hospital, New York.

In 1892, while operating on a septic case, he was infected and nearly lost his life as a result of severe blood poisoning. After a prolonged convalescence he resumed a portion of his practice, but was soon compelled to relinquish it on account of mental derangement, probably traceable to his previous illness, and died at the Northern Michigan Asylum April 29, 1902, of general paralysis.

Doctor Morgan was a man in whom the experiences of army life and the emergency calls and accidents of the saw mills and lumber camps had developed a coolness, self-reliance and judgment that made him much in demand, not only in his private practice but as a consultant as well. He was a constant student and was contemplating additional post-graduate work when his failing health compelled him to lay aside his work.

He was a man of few words and fewer pretensions, hating and ridiculing anything that savored in the least of unprofessional conduct, and while to many he may have seemed even blunt, he had almost a woman's tenderness and sympathy for those who were really suffering from pain and sickness.

A conscientious physician, his life was a sacrifice to professional duty, one of the victims of the subtle poisons whose dangers are only realized by the physician, and a man entitled to the respect and honor of the profession in Michigan.

The Journal of the Michigan State Medical Society

PUBLISHED MONTHLY

A. P. BIDDLE, M. D., Detroit.....Editor | S. EDWARD SANDERSON, M.D., Detroit, Bus. Mgr.

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DETROIT, JANUARY, 1903

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Editorial

THE NEW GERMAN REQUIREMENTS FOR THE RIGHT TO PRACTICE MEDICINE.

Very little has been said in this country about the new German regulations for medical study, yet these are interesting in many respects. Within the last fifteen years there has been much discussion of this problem in Germany. There the discussion is kept within narrower lines than similar discussions are in this country. It is not necessary to compromise with sects nor to follow the inclinations of politicians. The competition of various schools and the wishes of individual teachers are also less potent than in this country. The new regulation went into effect on the 20th of May, 1901, and applies to all who take examinations after the 1st of October, 1908. The traditional German academic freedom does not suffer. The courses of study are laid down in the most general way; only two examinations are required. The examiners are University teachers who examine in their own branches, though not necessarily their own students. The difference between the non-teaching examiners, as in our state examining bodies, and the examiners from foreign schools, as in England, is noteworthy. The first examination is known as the preliminary medical examination. Candidates must present the certificate of a *gymnasium* or a *real-gymnasium* and must have spent at least five semesters in medical study in one or more of the universities. However, the examination may be taken in the last six weeks of the fifth semester, and the half year of military service under arms may also be taken in the five semesters. Prac-

tically the only requirements laid down beforehand are these: A candidate must show that he has spent two semesters in the dissecting room, one semester in the practical study of microscopic anatomy, and has taken practical courses in physiology and chemistry. The examination includes anatomy, physiology, physics, chemistry, zoology, and botany. Two days are devoted to the anatomical examination, one day to that in physiology, and the other four subjects must be passed off in one day. The results are noted by the terms "Very good," "Good," "Sufficient," "Insufficient," and "Bad," and the candidate must obtain at least "Sufficient" in all six branches. If "Insufficient" or "Bad" in any branch, he must take another examination at a time determined by the examiners, varying from two months to one year. The fees for this examination amount to ninety marks, or about \$22.50 in our money. The second or medical examination cannot be taken until at least ten semesters, including the half year of military service, have been passed. At least four semesters, not including military service, must be taken after passing the preliminary examination. The candidate must show that he has spent at least two semesters in the practical work of the medical, surgical and obstetric clinics; he must have delivered four obstetric cases in the presence of a teacher or assistant physician; must have spent one semester in the eye clinic, the medical polyclinic, the clinic or polyclinic for children's diseases, the psychiatric clinic and the special clinics for diseases of the throat, nose, ear, skin and venereal; must have taken a practical course in vaccination and acquired the technique and ability necessary in that operation and heard lectures on topographic anatomy, pharma-

cology and legal medicine. The examination includes general pathology and pathologic anatomy, two days; medicine and surgery, each seven days; obstetrics and gynecology, five days; ophthalmology, three days; psychiatry and hygiene, each one day. In the various parts it must be shown that the candidate has retained as much knowledge of anatomy and physiology as is necessary in practice. It would take too much room to detail the methods of each examination. A brief outline of the medical ordeal may suffice. This includes two parts. The first part is conducted by two examiners, in the medical wards of a large hospital, a university clinic or a polyclinic. The candidate has to examine two patients on consecutive days before the examiners, and write the anamnesis, diagnosis and prognosis and plan of treatment in a protocol to be signed by an examiner. A critical report on the case is to be written by the candidate at home on the same day and given to the examiner the following morning. In the next four days the two patients are to be visited at least once each day, and the course of the disease noted in the report returned by the examiner. If the patient dies before the end of the four days a critical review is to be made with reference to the results of the autopsy. Should the patient leave before the time is up, the examiner may furnish another. Each examiner must accompany the candidate at least three times on his visit, examine the report and cause necessary corrections to be made. During the visits the candidate must demonstrate on other patients his ability in the diagnosis and prognosis of internal disease, and particularly diseases of children, and also his familiarity with therapeutics. The knowledge necessary

for the diagnosis and treatment of diseases of the nose and throat and the use of the laryngoscope must also be demonstrated. In the second part of the examination the candidate, in the presence of an examiner, must answer in writing some questions in the art of prescribing and demonstrate orally that his knowledge of pharmacology and toxicology is sufficient for the needs of a practicing physician. The subject of bacteriology is considered in the examination on hygiene, where also a test is made of the candidate's knowledge of vaccination. In the various examinations the history of the subjects and possible relations to legal medicine must not be neglected. Attention is also to be paid to the candidate's knowledge of medical terms. Students of medicine and also teachers of medicine in any German university are admitted to some of the examinations. The same patient is not to be given to several candidates. The results of the examinations are expressed in the same terms as mentioned before, and if one of two examiners gives the mark "Insufficient" or "Bad," his voice decides. In the latter case the examination must be taken again. The fees for this examination amount to two hundred marks, or fifty dollars. After this examination the candidate has to spend a year in a hospital. The institution of this "practical year" is the most radical advance that has been made recently in German education, and its working out will be followed with much interest. A university clinic, a university polyclinic or a hospital specially designated may be selected, and the candidate spends a year under the supervision and instruction of the director, at least a third of a year being devoted to internal diseases. The candidate is obliged to "increase his practical

knowledge and ability and to show a sufficient understanding of the tasks and duties of the medical profession." If he does not convince the authorities that he has acquired the necessary knowledge, he is obliged to continue for a period to be decided by the latter. After satisfactorily finishing his practical year, furnishing testimonials of good moral character and proving that he has attended at least two public vaccination and revaccination periods, the candidate is given the license to practice medicine in any part of the German empire.

The degree of M. D. is entirely unnecessary, but will, of course, be taken as heretofore by all who wish to follow university careers and by those who have time and money to devote to that purpose.

GEORGE DOCK.

MEMBERS OF THE HOUSE OF DELEGATES OF THE STATE SOCIETY.

Pursuant to the By-Laws of the State Society each County Society will elect at the first meeting after January 1st a delegate or delegates in the proportion of one for every fifty members or major fraction thereof to represent the County Society at the next Annual Meeting of the State Society, each County Society being entitled to at least one delegate.

As a great deal of responsibility will devolve upon this House of Delegates, it is urged upon the members of the County Society to be present at their annual Meeting and to select from their members the best material possible. There is nothing in the By-Laws which forbids an officer of a County Society from serving as a delegate, if the Society so chooses.

Upon the House of Delegates will be thrown the responsibility of reviewing the work of its officers and its Council during the year which will have passed; of electing their successors; and of performing the work usually done by the Society in General Session. That it may familiarize itself thoroughly with its duties, that its members may become acquainted with each other, and that its work may not interfere with the other work of the Society, it will meet on the day previous to the Annual Meeting.

RECIPROCITY AMONG THE BRANCH COUNTY SOCIETIES.

As soon as a County Society is chartered it becomes a branch of the State Society. Therefore all branches of the State Society are integral parts of the same, and a member of one branch is privileged to accept all the advantages which any other branch County Society may offer him. A physician in good standing in any branch County Society, visiting in any other county, is expected to attend the meetings of the said County Society and to take part in the scientific and social work of the same at his pleasure.

County Society News.

The Secretary of the State Society is ready to furnish the County Societies with copies of the constitution and by-laws for adoption by the County Societies, and with blank applications for membership upon request.

The following program of the January meeting of the Union Medical Society and the Montcalm County Medical Society

shows that there is a vast amount of enthusiasm and energy in that part of the State being devoted to bringing about large and interesting meetings. Other counties should follow in their footsteps.

10:00 A. M.

Calling to order by the President, John Avery.

1. Clinic.
2. Business pertaining to the Union Medical Society of Northern Michigan.
3. Business Pertaining to the Montcalm Co. Medical Society.
4. President's Address, John Avery, Greenville.
5. Paper—Intracapsular Fracture of the Neck of the Femur.
A. W. Nichols, Greenville.
Discussion—Led by L. S. Griswold, Big Rapids.
6. Pneumonia—
A Symposium.
(a) Etiology, A. E. Savage, Gowen.
(b) Diagnosis, A. L. Corey, Stanton.
(c) Treatment, D. K. Black, Greenville.
7. Paper—Up-to-Date Therapeutics.
W. P. Gamber, Stanton.
Discussion—Led by W. H. Lester, Greenville.

8. Paper—Antiseptics in Obstetric Practice.
N. E. Bachman, Stanton.
Discussion—Led by A. P. Culbertson, Vickeryville.
9. Paper—Antiphlogistine.
A. C. Huebner, Blanchard.
Discussion—Led by D. C. Bell, McBride.
10. Medical Education Abroad.
Richard R. Smith, Grand Rapids.
11. Election of officers and miscellaneous business.
12. Adjournment.

CALHOUN COUNTY MEDICAL SOCIETY.

At the annual meeting, held at Marshall, Dec. 9th, Dr. A. W. Alvord, Battle Creek, late President of the State Society, was unanimously elected delegate to the State Society for 1903.

The Secretary reports 64 affiliated members and one honorary member.

Report of Examinations for Licenses to Practice Medicine.

Michigan State Board of Registration in Medicine; report of examination held at Lansing, October 14th-17th, 1902; number of subjects examined in, 19; total number of questions, 190; percentage required to pass, 75; examination partly oral and partly written; total number examined, 14; number passed, 8; number failed, 6.

The following applicants passed. A list of unsuccessful applicants, indicated by number follows, the list of the successful candidate.

Number of Applicant	School of Practice	COLLEGE	Year Graduated	Per Cent	REMARKS
1	R	Medical Dept. University of Nebraska.....	'95	79.63	Passed
2	R	Medical College, State of Carolina.....	'84	89.	Passed
3	R	McGill University, Montreal.....	'02	86.73	Passed
4	R	Toronto University.....	'02	82.63	Passed
5	R	Baltimore Medical College, Baltimore, Md.....	'02	82.21	Passed
6	R	Undergraduate.....		89.89	Passed
7	R	Toledo Medical College, Toledo, O.....	'01	79.52	Passed
8	R	Undergraduate.....		76.68	Passed
9		Undergraduate.....		29.52	Failed
10	R	Independent Medical College.....	'96	21.42	Failed
11	E	Independent Medical College.....	'99	46.73	Failed
12		Undergraduate.....		45.37	Failed
13	R	Undergraduate.....		66.42	Failed
14	R	Jenner Medical College, Chicago (Student).....		72.73	Failed

(Signed) B. D. HARRISON, Secretary, Sault Ste. Marie, Mich.

Date, December 3, 1902.

Communications.

COMMITTEE TO PETITION THE LEGISLATURE FOR AN APPROPRIATION FOR THE ESTABLISHMENT OF A PROPERLY EQUIPPED SANATORIUM FOR THE TREATMENT OF THE EARLY STAGES OF TUBERCULOSIS.

HERBERT M. KING, Grand Rapids, Chairman.

LYMAN W. BLISS, Saginaw.

CHARLES G. JENNINGS, Detroit.

VICTOR C. VAUGHAN, Ann Arbor.

HENRY B. BAKER, Lansing.

Lansing, Mich., Dec. 6, 1902.

The Editor:

Two years ago the Michigan State Medical Society appointed a committee to labor for the creation of a State Sanatorium for Consumptives; and a bill for that purpose was before the last legislature. At the last meeting of the State Medical Society the committee reported, were continued, and have since had meetings, discussed the most important needs, and outlined a plan of further action. At several sessions of the legislature the State Board of Health has had a bill for a similar purpose. At the last session its bill was introduced in the House and the State Medical Society's bill was introduced in the Senate. At the coming session it is expected that there will be only one bill, that of the State Society.

A sanatorium for consumptives is needed for the best protection of the public health of all classes of people, but it is especially needed for the consumptive poor. If a poor man or woman gets consumption, he or she is likely to have to work constantly, and is not able to have the nourishing food which is essential for a cure of the disease; neither is the patient able to have the constant exposure day and night in pure, fresh air in a properly constructed sanatorium which is now believed to be an essential part of the treatment for the cure of consumption. The contraction of consumption by a person in moderate financial circumstances now frequently is equivalent to a sentence of death in about two years. On the other hand, the experience in the sanatoria in Massachusetts and other states and countries proves that under such proper conditions very many consumptives, if taken in the early stages, recover their good health and again become bread-winners and producers of wealth to their families and to the state.

Again, a State Sanatorium for consumptives is needed where tuberculous patients may go and not only be scientifically and successfully treated, but be taught how this "great white plague" is

spread, and the best method for its restriction and prevention. Tuberculosis has caused more deaths in Michigan than any other disease, and its spread cannot be stopped until the consumptives themselves are instructed how to restrict it; yet with their coöperation it can be restricted and prevented until it is entirely wiped out. A State Sanatorium for consumptives is the most desirable and economical way of wiping out this disease, by curing incipient cases and by educating all, cured and not cured, how to care for tubercular sputum, thereby lessening the danger of the spread of the disease to others.

Please use your influence with the representative of your district and your State senator.

Very respectfully,

HENRY B. BAKER,

Member of the Committee.

[The above appeal is directed through the JOURNAL to every member of the Michigan State Medical Society.—Editor.]

AN ACT TO ESTABLISH A FOREIGN SERVICE MEDICAL CORPS IN THE MEDICAL DEPARTMENT OF THE ARMY OF THE UNITED STATES.

We are in receipt from Major Henry D. Thomason, Surgeon, U. S. Vols., a Michigan Vol. Medical Officer serving in the Philippines, of a draft for proposed national medical legislation establishing the above Foreign Service Medical Corps.

PURPOSE OF THE BILL.

The purpose of this bill is to establish a permanent Medical Corps similar to the British East Indian Medical Service, whose duty it will be to serve the military and civil services of the United States in those countries which, while under the United States Government, are separated as to their people and country from the United States proper. It is felt that properly qualified medical men will not come in sufficient numbers to the tropics to enable the officials and other civil employees of the Government to obtain that expert medical attention which they would receive in the United States, unless incentive is offered them. That men, who have not devoted time and study to tropical surgery and medicine, cannot attain to that proficiency, which will be given by those who are specially trained for this work.

Men experienced as medical officers are accustomed to sustain discipline and render loyal allegiance when acting under the orders of superiors.

The provisions of this measure at once places a body of men trained in medical military tropical service at the command of the United States to be used either by the civil or military authorities as the necessities may require.

That when serving under the authority of the civil governments they must be subject to and act under civil law and civil superiors.

That with a fixed tenure of office, and provi-

sion for old age, a better quality of medical service may be had for less cost.

That these men are needed particularly in the care of the Constabulary, and other native forces, and in the management of epidemic disease falling under the jurisdiction of civil governments, as well as to replace in the Army those Volunteer Surgeons who are soon to be discharged by expiration of law, and the Contract Surgeons who are now employed in the tropics.

It shall be constituted as follows:

One Assistant Surgeon General with the rank of Colonel, four Deputy Surgeons General with the rank of Lt. Colonel, forty Surgeons with the rank of Major. One hundred Assistant Surgeons, with the rank of Captain and First Lieutenant, mounted, as hereinafter provided. The pay and allowances of these officers to be the same as for officers of like grades in the United States Army serving in insular possessions.

After the original vacancies are filled as hereinafter provided, promotion by seniority shall apply in all grades.

In order to establish and sustain the high standard intended for this corps, it is deemed essential it shall be an integral part of the Medical Department of the Army. Made subject to the same moral, physical, and professional attainment, and the same examination for promotion and entrance, at the same time working no injustice to this body, as promotion in each is intended to be separate and distinct.

When, in the opinion of the Secretary of War, necessity therefor exists, the medical officers of the military services of the United States shall act under the direction of the Civil Government in the controlling of epidemic diseases, and such other public health functions as the necessities of the case demand.

When serving under direction of Civil Governments the duties of medical officers shall be as follows: To render medical and surgical services to the civil officials and their families, and such others as the civil authorities may determine are entitled to this service, and to perform such public health duties as may be required. When detailed to serve under the direction of the U. S. civil authorities, medical officers shall, for the period thus detailed, be removed from all military jurisdiction, and subject only to the orders of the proper civil authorities and the Secretary of War.

The duties of the officers of the medical department of the military services of the United States shall be also as follows:

1st. The direction of measures for the prevention of disease among the troops of the army, and of sanitary faults in location, construction and management of posts and camps.

2d. The medical and surgical care of diseased and injured officers and soldiers of the Army of the United States; the physical examination of all officers and soldiers entering and leaving the United States Army.

3d. The care of and accountability for all transportation pertaining to the movement of men and supplies of the medical department and of sick and injured of the army.

4th. The preparation and preservation of the records of transactions taking place under the three preceding paragraphs.

5th. It shall be the duty of the senior officer of the (army) corps, division, brigade, (territorial division or department), in which an actual outbreak of disease shall have arisen, to at once take steps and investigate and determine the reason therefor.

Book Reviews.

A COMPEND OF HUMAN PHYSIOLOGY. Especially adapted for the use of medical students. By Albert P. Brubaker, A. M., M. D., adjunct professor of physiology and hygiene in the Jefferson Medical College; professor of physiology in the Pennsylvania College of Dental Surgery; lecturer on anatomy and physiology in the Drexel Institute of Art, Science and Industry; fellow of the College of Physicians of Philadelphia. Eleventh edition, revised and enlarged, with illustrations and a table of physiologic constants. P. Blakiston's Son & Co., Philadelphia.

This is as thoroughly complete as a book of this kind can be. It is well-written, concise and of unquestioned merit to the reader desiring to make a rapid review of physiology. From the standpoint of student as well as teacher, however, we cannot refrain from deprecating the use, by students, of such synoptic books, especially when we consider the number of good text-books which they too often supplant.

THE PHYSICIANS' VISITING LIST FOR 1903. Price \$1.00 net. P. Blakiston's Son & Co., Philadelphia.

This is a neat little book containing, in addition to the usual pages for recording daily visits, obstetrical engagements, deaths, vaccinations and addresses of patients, a number of tables which are not infrequently of use to physicians; a few pages on incompatibility, a list of poisons and antidotes, a dose-table and a short dissertation on Asphyxia and Apnoea, help make the book a convenient thing to have in one's pocket.

Books Received.

Transactions of the Indiana State Medical Society, 1902; fifty-third annual session, held in Evansville, Indiana, May 22 and 23, 1902.

Transactions of the Florida Medical Association, 1902.

Transactions of the West Virginia State Medical Association, 1902.

Transactions of the Iowa State Medical Society, 1902.

Transactions of the Medical Society of New Jersey, 1902.